

## CLAIMS

What is claimed is:

1. A method for dynamically configuring a mobile node, comprising:  
issuing a first Dynamic Host Control Protocol (“DHCP”) request;  
receiving an address for a first home agent in response to the first DHCP  
request;  
registering with the first home agent;  
examining a registration reply from the first home agent to identify an  
extension; and  
determining from the extension whether the mobile node is on one of an internal  
network and an external network.
2. The method according to Claim 1 wherein the first home agent is one of an  
internal home agent and an external home agent, and the extension includes one  
of an internal registration reply extension and an external registration reply  
extension.
3. The method according to Claim 2 wherein the mobile node is on the internal  
network if the home agent address includes the internal registration reply  
extension and on the external network if the home agent address includes the  
external registration reply extension.

4. The method according to Claim 1 further comprising receiving an address for a default Virtual Private Network (“VPN”) gateway and an address for a default home agent in response to the first DHCP request.
5. The method according to Claim 4 wherein the mobile node is on the internal network and the address of the default home agent is an address of an external home agent, the method further comprising storing the address for the default VPN gateway and the address for the external home agent.
6. The method according to Claim 5 further comprising:
  - roaming from the internal network to the external network;
  - issuing a second DHCP request;
  - receiving an address for a second home agent in response to the second DHCP request;
  - registering with the address for the first home agent; and
  - registering with the second home agent if the registration attempt to the first home agent fails.
7. The method according to Claim 6 wherein the second home agent is an external home agent.
8. The method according to Claim 4 wherein the mobile node is on the external network, the address for the default home agent is an address of an internal

home agent, and the method further comprises establishing a secure connection with the default VPN gateway.

9. The method according to Claim 8 further comprising registering the mobile node with the internal home agent on the internal network via the secure connection.

10. A system, comprising:

- a mobile node capable of issuing a first Dynamic Host Control Protocol (“DHCP”) request;
- a first home agent coupled to the mobile node, the first home agent capable of issuing a registration reply including an extension in response to a registration request from the mobile node;
- a DHCP server coupled to the mobile node and the first home agent, the DHCP server capable of providing a DHCP reply in response to the DHCP request from the mobile node, the DHCP reply including an address for the first home agent, the mobile node further capable of registering with the first home agent, examining the registration reply from the first home agent to identify the extension and determining from the extension whether the mobile node is on one of an internal network and an external network.

11. The system according to Claim 10 wherein the first home agent is one of an internal home agent and an external home agent, and the extension includes one

of an internal registration reply extension and an external registration reply extension.

12. The system according to Claim 11 wherein the mobile node is on the internal network if the home agent address includes the internal registration reply extension and on the external network if the home agent address includes the external registration reply extension.

13. The system according to Claim 10 wherein the DHCP reply in response to the first DHCP request further includes an address for a default Virtual Private Network (“VPN”) gateway and an address for a default home agent.

14. The system according to Claim 13 wherein the mobile node is on the internal network, the address of the default home agent is an address of an external home agent and the mobile node is further capable of storing the address for the default VPN gateway and the address for the external home agent.

15. The system according to Claim 14 further comprising a second home agent, and wherein:

the mobile node is capable of roaming from the internal network to the external network and issuing a second DHCP request to the DHCP server,  
the DHCP server is capable of issuing an address for the second home agent in response to the second DHCP request, and

the mobile node is further capable of registering with the first home agent, and registering with the second home agent if the registration attempt to the first home agent fails.

16. The system according to Claim 15 wherein the second home agent is an external home agent.

17. The system according to Claim 13 wherein the mobile node is on the external network, the address for the default home agent is an address of an internal home agent, and the mobile node is further capable of establishing a secure connection with the default VPN gateway.

18. The system according to Claim 17 wherein the mobile node is further capable of registering with the internal home agent on the internal network via the secure connection.

19. An article comprising a machine-accessible medium having stored thereon instructions that, when executed by a machine, cause the machine to:  
issue a first Dynamic Host Control Protocol ("DHCP") request;  
receive an address for a first home agent in response to the first DHCP request;  
register with the first home agent;  
examine a registration reply from the first home agent to identify an extension;  
and

determine from the extension whether the mobile node is on one of an internal network and an external network.

20. The article according to Claim 19 wherein the first home agent is one of an internal home agent and an external home agent, and the extension includes one of an internal registration reply extension and an external registration reply extension.

21. The article according to Claim 20 wherein the machine is on the internal network if the home agent address includes the internal registration reply extension and on the external network if the home agent address includes the external registration reply extension.

22. The article according to Claim 19 wherein the instructions, when executed by the machine, are further capable of causing the machine to receive an address for a default Virtual Private Network ("VPN") gateway and an address for a default home agent in response to the first DHCP request.

23. The article according to Claim 22 wherein the machine is on the internal network, the address of the default home agent is an address of an external home agent, and the instructions when executed by the machine, are further capable of storing the address for the default VPN gateway and the address for the external home agent.

24. The article according to Claim 23 wherein the machine roams from the internal network to the external network, and the instructions, when executed by the machine, further cause the machine to:
- issue a second DHCP request;
  - receive an address for a second home agent in response to the second DHCP request;
  - register with the first home agent; and
  - register with the second home agent if the registration attempt to the home agent fails.
25. The article according to Claim 24 wherein the second home agent is an external home agent.
26. The article according to Claim 22 wherein the machine is on the external network, the address for the default home agent is an address of an internal home agent, and the instructions, when executed by the machine further cause the machine to establish a secure connection with the default VPN gateway.
27. The article according to Claim 26 wherein the instructions, when executed by the machine, further cause the machine to register with the internal home agent on the internal network via the secure connection.
28. A method of dynamically configuring a mobile node, comprising:
- processing a registration request from the mobile node; and

issuing a registration reply in response to the registration request, the registration reply including an extension indicative of whether the mobile node is on one of an internal network and an external network.

29. The method according to Claim 28 wherein issuing a registration reply further comprises registering the mobile node if the mobile node is on the internal network and rejecting the registration request from the mobile node if the mobile node is on the external network.

30. An article comprising a machine-accessible medium having stored thereon instructions that, when executed by a machine, cause the machine to: process a registration request from a mobile node; and issue a registration reply in response to the registration request, the registration reply including an extension indicative of whether the mobile node is on one of an internal network and an external network.

31. The article according to Claim 30 wherein the instructions, when executed by the machine, further cause the machine to register the mobile node if the mobile node is on the internal network and reject the registration request from the mobile node if the mobile node is on the external network.